

Appn. No. 10/091,946
Docket No. 14X200152/OEM-0214

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (currently amended) A method for processing radiography images comprising:
 - determine from a three-dimensional modelling a three-dimensional model known as the masked model which features a calcified element and an implanted element, but not a vascular element;
 - determine a three-dimensional model known as the subtracted model, which features the vascular elements alone;
 - merging the two models, weighting their voxels so as to increase the contrast between the images of the masked model and the images of the subtracted model, and summing the voxels thus weighted;
 - wherein the voxels of the masked image are weighted by applying to them a function rule which, over at least one range of voxel intensities, is a linear function of the intensity, and which, outside of the voxel intensity range, increases less markedly than the linear function of intensity used for the intensity range.
2. (original) The method according to claim 1, wherein the masked image is filtered by removing therefrom any voxel intensities which are below a given threshold.
3. (original) The method according to claim 2, wherein the weighting is applied to the voxels after filtering.
- 4-9. (canceled)

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10. (currently amended) The method according to claim [[7]] 1, wherein the ~~weighting law~~ function rule used outside of the intensity range is a function which, give or take a multiplication factor, corresponds to the square root function.

11-12. (canceled)

13. (original) The method according to claim 1 wherein the voxels of the subtracted model are weighted by applying to them a coefficient which is the ratio between a value that corresponds to a desired mean value for the voxels of the model in the merged model and a mean value that is calculated over the voxels in the subtracted model.

14. (original) The method according to claim 13, wherein the mean value is calculated by determining the limits of the vessels or vessel portions and by calculating the mean value in the region thus determined.

15. (original) The method according to claim 13, wherein the mean value is calculated by determining portions of straight lines which constitute the main directions of a vessel and by calculating the mean value over these straight lines portions.

16. (original) The method according to claim 1 wherein the anatomical region that it is desired to view is selected beforehand, the masked model and the subtracted model and the merged model being determined for the region.

17. (original) The method according to claim 16, wherein the merged model is produced by pointing to the portion or portions of vessels that the user wishes to view and automatically determining the limits of this or these portion or portions of vessels.

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18. (currently amended) An apparatus for radiographic imaging comprising:
means for providing a three-dimensional model to be known as the masked
model showing a calcified element and an implanted element, but not a vascular element;
means for providing a three-dimensional model to be known as the subtracted
model showing the vascular elements alone;

means for merging the two models and weighting their voxels so as to increase the
contrast between the image of the masked model and the image of the subtracted model;
and

summing the voxels thus weighted;

wherein the voxels of the masked image are weighted by applying to them a
function rule which, over at least one range of voxel intensities, is a linear function of the
intensity, and which, outside of the voxel intensity range, increases less markedly than the
linear function of intensity used for the intensity range.

19. (original) The apparatus according to claim 18 comprising:

means for filtering the masked image to remove therefrom any voxel intensities
which are below and given threshold.

20. (original) The apparatus according to claim 19 wherein the weighting is
applied to the voxels after filtering.

21-22. (canceled)

23. (currently amended) The apparatus according to Claim ~~[[22]]~~ 18 wherein
~~the weighting law~~ function rule used outside of the intensity range is a function which,
give or take a multiplication factor, corresponds to the square root function.

24. (previously presented) The apparatus according to claim 18 wherein the
voxels of the subtracted model are weighted by applying to them a coefficient which is

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the ratio between a value that corresponds to a desired mean value for the voxels of the model in the merged model and a mean value that is calculated over the voxels in the subtracted model.

25. (original) The apparatus according to claim 24 wherein the mean value is calculated by determining the limits of the vessels or vessel portions and by calculating the mean value in the region thus determined.

26. (original) The apparatus according to claim 24 wherein the mean value is calculated by determining portions of straight lines which constitute the main directions of a vessel and by calculating the mean value over these straight lines portions.

27. (original) The apparatus according to claim 18 wherein the anatomical region that it is desired to view is selected beforehand, the masked model and the subtracted model and the merged model being determined for the region.

28. (original) The apparatus according to claim 27 wherein the merged model is produced by pointing to the portion or portions of vessels that the user wishes to view and automatically determining the limits of this or these portion or portions of vessels.

29. (previously presented) The method of Claim 1, wherein:
the masked model comprises a radiographic masked model; and
the subtracted model comprises a radiographic subtracted model.